Claims 127-141 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No.7-1-04. Note the first claim 55 is renumbered claim 54.

The disclosure is objected to because of the following informalities: Page 1 is missing the patent number for 10/071,534 and the Provisional Patent Application No. for line 20. At page 4, line 20, "claim 4" needs to be changed to "Fig. 4".

Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-4, 6-7, 12-13, 53, 64-68, 71, 74, 114, 117, 120, 122 and 126 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Morgavi.

The lower print head 11 show below the card in Fig. 1 card transport 19A-20A and guide half-casings 34, 39 having an outlet opening read on claim 1. Print head 11 is in a gap between the beveled lip 35-35A and beneath supply and take up reels 36A-37A as recited in claim 2. These reels are on opposite sides and outside the gap as recited in claim 3 These reels are below the print path as shown in Fig. 1, which reads on claim 4. Ribbondetectors 24A detect the panels of ribbon 12 said to be in sequential order. See col. 3, line 2 and col. 4, lines 26-27. The reads on claim 6. The detectors

are between the reel 37A and the print head and are adjacent to the print head 11 as recited in claim 7. Plural detector units forming 24A are shown in Fig. 1, which reads on claims 12-13. A controller 50 shown in Fig. 5 synchronizes print head operation with card roller transport as recited in claim 53. See col. 4, lines 36-44. A straight feed path is shown in Fig. 1 for the card which reads on the claim 64 flat path. Rollers 19-19A, 20-20A read on claim 65. Card detectors 16-16A are placed tin the vicinity of the thermal print heads and are adjacent the print path, which reads on claim 66. Claim 67 calls for print elements facing upward. The thermal print head of Morgavi has heat resistors at its tip which anticipate claim 67. See also col. 1, line 13. Print head 11 moves vertical as called for in claim 68. See col. 5, line 23.

Claim 71 calls for a print position and idle position for the print head. This is anticipated by a cam movement controlling the raising and lowering of the heads. See col. 5, lines 23-26 and col. 2 lines 65-67. The thermal print head 11 anticipates claim 74.

4H 6 Morgavi has an entry for the guiding and conveying device, with the card then conveyed by drive rollers 19-19A. See col. 5, lines 14-17. Print head 11 is driven vertically upward. See col. 2, lines 65-67. This anticipates claim 114. The cards after printing are discharged through an exit. This reads on claim 117. See col. 3, lines 50-51. Thermal print ribbon 13 extends over print head 11 and is beneath the card as shown in Fig. 1, which anticipates claim 122. Figure 1 shows the straight card path feed, which anticipates claim 120.

Claim 126 calls for raising the print head to a print position prior to printing. Raising the head to contact the ~~card faces is taught~~ card surface is taught at col. 3, lines 62-63. Printing does not occur until a further rotation of cam 25 providing for clearance and springs 28-28A to exert equal pressure on both faces of the cards. This anticipates claim 126. See col. 3, lines 63-67 and col. 4, lines 1-4.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgavi in view of Kohno.

Morgavi does not disclose that the ink ribbons are mounted on removable cassettes. Kohno discloses use of a removable cartridge 1. See col. 1, lines 25. At the time of applicants invention it would have been obvious to one of ordinary skill in the art to have mounted the Morgavi ribbons removable cassettes as such is common by Kohno. Motivation would have been the ease of mounting and dismounting of a used ribbon. Note Morgavi discloses the two printing printers are identical. The casing 2 of Kohno reads on the "housing" of claim 5. The space between shafts 13 reads on the gap of claim14 with the ribbon supply extending between the shafts.

Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Morgavi in view of Klinefelter et al 6,412,991

Morgavi does not disclose the type of ribbon sensor 16A being used. Klinefelter et al teaches several types including the one of claim 10. See Fig. 3 and col. 5, lines 55-61 concerning 66 being the emitter and 68 being the sensor. It would have been obvious to select the Fig. 3 ribbon sensor of Klinefelter et al as the sensor 16A to be used with Morgavi as such a sensor is the use intended by Klinefelter et al.

Claims 15-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgavi in view of Kohno.

Morgavi is schematic in nature and discloses no cartridge or guide bars. As indicated above Kohno has all these features. When the kohno cartridge is mounted in place of the reels 36-37 of Morgavi the gap between guide shafts 13would be above the supply spools as recited in claim 15. It would have been obvious to use the Kohno cartridge embodiment for the reels 36A-37A with the cartridge shafts on opposite sides of the print head as recited in claim16. Motivation would have been the ease of mounting and dismounting used/damaged ribbons. Morgavi shows the reels 37-37 positioned below the print head as recited in claim 17. The Kohno reel accommodation portions 4-4 read on the spool enclosures as recited in claim 20. these portions 4-4 are joined by a plate 2a. See Fig.1 and col. 3, lines 40-45. Regarding claim 18, see the above rejections of claims 15-17.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morgavi in view of Klinefelter et al (2002/0180993).

Morgavi does not disclose use of a ribbon supply circuit and memory for a cartridge. Klinefelter et al teaches use of a supply circuit and memory to monitor ribbon cartridge supply. See Klinefelter's claims 12 and paragraphs 16 and 22 concerning the supply circuit 80. It would have been obvious to use the Klinefelter et al supply circuit 80 on ribbon cartridges in place of the reels 36A-37A of Morgavi. Motivation may be

found in Klinefelter et al at paragraph 13 as such a system permits controller 22A to monitor the ribbon usage.

Claims 54-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgavi in view of Sims et al.

Morgav

ribbon printer.Such is common as shown by the Sims Fig.1 keyboard control panel 4 with display 14 reading on claim 55. See col. 9, lines 25-35. Fig. 3 shows the keyboard and display interacting with a control system. It would have been obvious to provide the Morgavi thermal printer with a keyboard and display for the control system 50 of Morgavi. Motivation would have been the ease of instruction input the keyboard would provide to control printer functions and the message capability the display would provide.

Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morgavi in view of Ishii.

Morgavi has no disclosure of use of firmware. Ishii discloses use of firmware in memory operated by a thermal printer control system; See col. 5, lines 46-60.

It would have been obvious to provide the control system 5 of Morgavi with a controller system of Ishii having firmware in memory. Motivation may be explicitly found in Ishii at col. 8, lines 6-15 where FWs are used to halt carriage and printing upon detection of a used up ink ribbon.

Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morgavi in view of Ishii and further in view of Foreman.

Morgavi is modified by the firmware teachings of Ishii as set forth above. No update or upgrade of firmware is taught by Ishii. However, updating of firmware is well known as taught by Foreman. See paragraph 5, which gives an example of an ink jet cartridge consumable used to upgrade controller firmware. It would have been obvious to use the Foreman upgrade of firmware for consumables teaching to upgrade the firmware controllers of Ishii. Motivation would have been to use the consumable ink ribbon to achieve this upgrade of code similar to the consumables ink jet cartridge upgrade of Foreman Also paragraph 9 indicates messages are sent to the users upon replacing a consumable cartridge. Upgradeable firmware in Ishii would be motivated by the ability to send to a users computer consumable re-order messages as explicitly set forth by Foreman in paragraph 9.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 25, 47-48, 53, 59-62, 64-68, 74, 114-122 and 126 are rejected under 35 U.S.C. 102 (b) as being anticipated by Fukai et al.

Cards 20 from cabinet 30 are transported between platen 72 and thermal print head 74 and then out put to cabinet 81 by pinch rollers 82 and feed rollers such as 30

and 71 transport the cards. This anticipates claims 1, 74 and 114. See col. 7, lines 11-15 and Fig. 1. Cabinet 30a reads on the input hopper of claim 115 and feeds the top card which anticipates claim 59. Spring 32 applies an upward force to the card stack, which reads on claim 61 and 116. See col. 3, line 68 and col. 4, lines 1-2. Rolls 82 output cards 20 to cabinet 81, which anticipates claim 117. See col. 7, lines 65-68. Cabinet 81 functions as an output hopper, which reads on claim 118. Figure 1 shows this cabinet below the output nip of rolls 82. The printed card side faces downward in the output stacker 80 which reads on claim 119. A straight line path through the printer is shown in Fig. 1 which anticipates claim 120. Claims 4-5 of Fukai et al and the description of figs. 7-8 teach the use of sticky scrubbing rollers rs, which anticipates claim 25 and 121. See col. 9, lines 21-41 and the further Fig. 8 embodiment set forth at col. 10, lines 37-57. Thermal head 74 is moved toward and away from the ribbon 73 to effect printing of the card supported by platen roller 72, which anticipates claim 122. See col. 7, lines 11-19 and lines 29-35.

Magnetic card reader-writer 40 reads on the expansion module of claims 47-48. See col. 4, lines 39-44. Controller 90 shown in Fig. 1 controls controlling all elements of the printer including print head and transport rolls which reads on claim 53. The face of the card 20 transported to the printer is the side printed on which anticipates claim 60. Spring 32 applies force to a stopper 33 which supports the stack of cards 20 in cabinet 30 anticipates claims 61-62. Fig. 1 shows the roll feed card transport path as flat and above thermal head 74, which anticipates claims 64-65. Claim 66 is anticipated by sensors 76a-76b. See col. 7, lines 16-20. The print head 74 has heating elements facing upward, which anticipates claim 67. See col. 7, 36-46.

lines 29-33 teach upward movement of the thermal head 74, which anticipates claim 68. This upward movement occurs prior to printing which anticipates claim 126.

Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukai et al in view of Mucciarone.

Fukai et al is not specific about a cover for cabinet 30a.

Mucciarone teaches use of a cover 6 which is transparent, and a stack of top fed, spring biased upward cards as shown in Fig. 3. It would have been obvious to have a transparent cover for the Fukai et al card input stack. Motivation would be the ability to visually check the type of card loaded in the Fukoi et al cabinet as well as the side to be printed.

Claims 123 and 125 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukia et al et al in view of Kohno. Fukai et al in col. 7, lines 19-32 teaches the sequence of having the ribbon in place prior to feeding a card as recited in claim 125.

lines 39-40. Fukai et al does not disclose the thermal ribbon is in cartridge form. Such are well known in the printing art as evidenced by Kohno. See col. 1, lines 1-3. It would have been obvious to have the Fukai et al ribbon in disposable cartridge form. Ease of mounting and dismounting for disposal would have motivated use of a removable cartridge.

Claim 124 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art cited above as applied to claim 123 above, and further in view of Klinefelter et al (2002/0180993).

Fukai et al does not disclose use of a supply memory for a cartridge. Klinefelter et al discloses use of a supply circuit and memory used to monitor cartridge supply.

See claims 12 and paragraphs 16 and 23 concerning supply circuit 80. It would have been obvious to use a supply circuit memory with the Kohno cartridge. Motivation is found in Klinefelter et al at paragraph 13 as such a system permits controller 22A to monitor the ribbon usage.

Claim 124 calls for reading supply information prior to performing printing. Paragraph 22 of Klinefelter et al, the last sentence, teaches the controller 22A is in communication with supply circuit 80 and in paragraph 21 can "disable the operation of printer 20. This anticipates claim 124. Claim 125 calls for installation of the cartridge prior to a cord feeding step. Fukai et al teaches this a column 7, lines 11-13 as the thermal ribbon 73 is already loaded and then sensor 76a "provides a cord transporting command signal". Use of the removable cartridge of Kohno would be in the same sequence when substituted for the ribbon and reels 75a-75b of Fukai et al. Kohno disclose cartridge receivers 130-131 shown in Fig. 5. See col. 4, lines 58-61.

Claims 76, 81-82, 88, 96-98, 102-109 and 112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukai et al in view of Kohno.

Fukai et al has all claim elements of claim 76 except for a removable cartridge as previously set forth. Kohno teaches this as previously set forth. It would be obvious to use a removable ribbon cartridge in place of the ribbon 73 of Fukai et al. Motivation is as explained in the rejection of claim 123.

Regarding claim 81, Kohno has casing 2, which reads on the cartridge housing. Casing 2 has reel accommodating portions 4 which receive supply reel 5 and take-up reel 6. See col. 3, lines 40-44. Print head 29 fits through casing opening 3 as set forth in col. 1, lines 31-35. Regarding claim 82, Fukai et al had his supply and take-up reels 75a-75b shown in Fig. 1 below the print path. Fukai et al teaches the structure of claim 88 in the form of a sticky surface-cleaning roll 102. See claim 4 of Fukai et al and Fig. 1 and col. 7, lines 22-30.

Claim 77 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art cited above as applied to claim 76 above, and further in view of Morgavi.

Fukai et al does not detect ribbon panels. Morgavi teaches detecting such panels as previously set forth in the rejection of claim 6. The Morgavi detectors 24a are shown in Fig. 1 to be adjacent the print head and print path. It would have been obvious to one of ordinary skill to use the Morgavi panel detectors when plural color inking is desired with the Fuka et al system

Claims 78 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art set forth above as applied to claim 77 above and further in view of Klinefelter et al 6412991.

Morgavi does not identify an emitter-receiver sensor. These are well known as evidenced by Klinefelter et al. See the previously explained rejection of claim 10.

It would have been obvious to one of ordinary skill to have selected the Klinefelter emitter receiver sensor to detect the multi-color ink panels on the Morgavi thermal ribbon 13as such was the use intende by Klinefelter.

Regarding claim 80, see the previously explained rejection of claim 12.

All the structure of claims 96-98, 102-109 and 112 are present in Fukai et al. Regarding claim 96, see the previously explained rejection of claim 47. Regarding claim 97, see the previously explained rejection of claim 48. Regarding claim 98, see the previously explained rejection of claim 53. Regarding claim 102, see the previously explained rejection of claim 115. Regarding claim 103, see the previously explained rejection of claim 60. Regarding claim 104, see the previously explained rejection of claim 61. Regarding claim 105, see the previously explained rejection of claim 64. Regarding claim 106, see the previously explained rejection of claim 65 Regarding claim 107, see the previously explained rejection of claim 66. Regarding claim 108, see the previously explained rejection of claim 67. Regarding claim 109, see the previously explained rejection of claim 68. Regarding claim 112, Fukai et al at col. 7, lines 29-35 teaches vertical print head movement between a higher printing position and a lower nonprinting position.

Claim 89 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art cited above as applied to claim 76 above, and further in view of Klinefelter et al (2002/0180993).

Neither Fukia et al or Kohno teach use of a memory circuit for a ribbon cartridge. Klinefelter et al as previously explained in the rejection of claim 26 teaches use of such a memory circuit. It would have been obvious to supply this memory circuit 80 to the Kohno ribbon cartridge. Motivation may be found in paragraph 13 of Klinefelter et al as such a system permits a controller for the printer to monitor ribbon usage.

Claim 99 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art cited above as applied to claim 76 above, and further in view of Sims et al.

Fukai et al has a controller 90 but discloses no control panel used therewith. Sims et al as previously explained in the rejection of claim 54 has a control panel 4 inputting signals to a controller through a keyboard. It would have been obvious to provide the Sims control panel 4 and display to interface with the Fukai et al controller. Motivation would have been the ease of instruction input the keyboard would provide to control printer functions and the message capability the display would provide.

Claim 100 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art cited above as applied to claim 76 above, and further in view of Ishii.

Fukai et al discloses no use of firmware. Ishii discloses use of firmware memory operated by a thermal printer system as set forth in the rejection of claim 56. It would hve been obvious to provide the controller 90 of Fukai et al with the Ishii firmware in memory. Motivation is explicitly set forth in Ishii at col. 8, lines 6-15 where FWs are used to halt carriage and printing upon detection of a used up ink ribbon.

Claims 8-9, 11, 19, 21-24, 27-46, 49-52, 58, 69-70, 72-73, 75, 79, 83-87, 90-95, 101, 110-111 and 113 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. A shortened statutory period of 3 months is set to respond.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning the specifics of this communication should be directed to Examiner Eickholt, who can be reached Tuesday through Thursday. Inquiries of a general nature should be directed to the TC2800 receptionist.

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